

WE CLAIM:

1. A canister for storing, transporting, or disposing of spent nuclear fuel, said canister comprising a canister shell, a top shield plug disposed within said canister, and a leak-tight closure arrangement, said closure arrangement comprising:

a shear ring forming a containment boundary of said canister, and weld means for welding the shear ring to said canister shell and to said top shield plug.

- 2. The canister of claim 1 wherein said shear ring comprises a plurality of pieces welded together.
- 3. The canister of claim 1 wherein said shear ring comprises three pieces welded together.
- 4. The canister of claim 1 further comprising an outer seal plate disposed above said shear ring and welded to said shield plug and said canister.





- 5. The canister of claim 1, wherein said shear ring is used as the load bearing member and the welds are seal welds.
- 6. The canister of claim 1, wherein mating surface of the shear ring and the canister shell are tapered.
- 7. A method of providing a leaktight closure for a canister comprising a canister shell and a top shield plug, said method comprising:

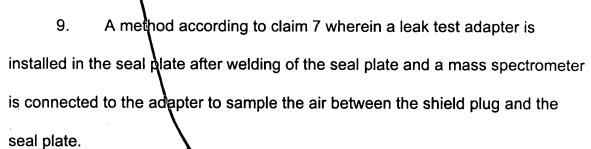
welding a shear ring to said canister shell and to said top shield plug, supplying a test gas to the canister, welding an outer seal plate to the canister so as to seal the canister and create a space between the seal plate and the shield plug, sampling the air between the shield plug and the seal plate to test internal sealing of the canister, supplying a test gas to the space between the seal plate and shield plug, and testing the outer seal plate for leakage.

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8. A method according to claim 7, wherein supplying a test gas to the canister comprises removing a pipe plug in the canister, filling the canister with helium and reinstalling the pipe plug after said filling.







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